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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,288	10/18/2001	Sung-wook Park	1293.1282	5004

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STEIN, MCEWEN & BUI, LLP
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EXAMINER

TOPGYAL, GELEK W

ART UNIT	PAPER NUMBER
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2621

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/981,288

Applicant(s)

PARK ET AL.

Examiner

Gelek Topgyal

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/8/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/8/2007 has been entered.

Response to Arguments

2. Applicant's arguments filed 12/7/2006 have been fully considered but they are not persuasive.

3. In re pages 1-3 of the remarks, the Applicants argue that there is no disclosure in Suzuki '178 of the claimed "navigation information [used to define] a relation required for the main data and the sub data to be reproduced in synchronization with each other" as defined in independent claims 1 and 5, and alternatively defined in claims 17 and 21.

In response, the examiner respectfully disagrees. Suzuki (US 6,763,178) does indeed teach the claimed "recording navigation information defining a relation required for the main data and the sub data to be reproduced in synchronization with each other" as recited in independent claims 1 and 5. As addressed in paragraphs 4 and 5 of the previous Office Action dated 22 March 2006, Suzuki discloses that sub data (subtitles) can be reproduced in synchronization with the audio and video data, and that the synchronization information is stored in GRAPHICS_HEADER_files (col. 6, lines 26-67).

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To further clarify the position of the examiner, the GRAPHICS_HEADER_files meets the limitation of the claimed "recording navigation information" that defines a relation for main data and sub data to be reproduced in synchronization with each other. The GRAPHICS_HEADER_files includes ATS and PTS time codes that are used for synchronization purposes. ATS time code is the time at which the data is to be read from the storage medium into a buffer (code buffer 14) for purposes of e.g. decoding, and PTS time code is the precise time and moment of display of the sub-data (subtitles). ATS and PTS time codes are old and thoroughly used in the art to synchronize two separate data files (in this case audio-video data with subtitles) (col. 6, lines 26-67). Suzuki once again teaches in col. 2, lines 1-10 that graphics header file (GRAPHICS_HEADER_files) are created and stored in *separate files* on the medium.

4. Furthermore, the applicants argue that 1) ATS and PTS are **not** used for synchronization purposes relative to the main data and that 2) GRAPHICS_HEADER files are **only** used for editing purposes and **not** used to define a relation between main data and the sub data.

In response, the examiner respectfully disagrees. Suzuki et al. clearly defines in col. 3, lines 50-52, "**the sub-images are synchronized using time codes and the like with the audio/video data**". These time codes are the ATS and PTS time codes as stored in the GRAPHICS_HEADER files, and therefore, the ATS and PTS are **definitely** used for synchronization purposes relative to the main data (audio/video data).

The GRAPHICS_HEADER files are indeed editable, but are not solely limited to editing as the GRAPHICS_HEADER files are stored back on the medium and are used for reproduction to synchronize the graphic files with the main audio video data (col. 4, lines 17-28). As described above, the ATS and PTS stored within these files do indeed define a relation for synchronization purposes between main data and sub data. Figures 4B, 6B and 8B are plots of the display times of the files stored in the GRAPHICS_HEADER files with respect to time (t, seconds). The regular time scale is in reference, not only to the read and display times of the graphic files, but with reference to the main audio video data being displayed.

5. Furthermore, the Applicants argue that no where in Suzuki is there any disclosure of "navigation information" as comprising "identifiers for particular bitstreams and playback time information for the sub data and/or extra data corresponding to the main data" as expressly stated in the newly amended independent claims 1, 5, 13, 17 and 21.

In response, the examiner respectfully disagrees. Suzuki teaches that each GRAPHICS header file has a unique name as can be seen in Figure 2 (GRAPHICS_001.header, GRAPHICS_002.header, ...). Each of the files is recorded separately on the medium, and therefore are stored on separate bitstreams. As discussed above in paragraphs 3 and 4, the PTS time code meets the limitation of the claimed "playback time information" for the sub data corresponding to the main data.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1-24** are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki.

Regarding claims 1-4, Suzuki teaches that video and audio data, subtitles, and other sub-information data like advertisements, still images, logos and titles are recorded on separate portions of the recording medium (see Figure 2, MPEGAV, GRAPHICS, and PICTURES subdirectory). Information about playback synchronization is stored under GRAPHICS_HEADER file in the form of ATS (Arrival Time Stamp) and PTS (Program Time Stamp) (Col. 6, lines 26-67). Suzuki also teaches and encoder 18 that encodes the incoming video and audio data (Col. 3, lines 2-17), and CPU 21 within the PC encodes all the subtitles, advertisements, still images, logos, and other titles. *Suzuki also teaches wherein the navigation information comprises identifiers for particular bitstreams and playback time information for the sub data corresponding to the main data (Suzuki teaches that each GRAPHICS header file has a unique name as can be seen in Figure 2 (GRAPHICS_001.header, GRAPHICS_002.header, ...). Each of the files is recorded separately on the medium, and therefore are stored on separate bitstreams. As discussed above in paragraphs 3 and 4, the PTS time code meets the limitation of the claimed "playback time information" for the sub data corresponding to*

*the main data. Furthermore, since multiple GRAPHICS header files are present, they multiple files read on the claimed **extra data** to be reproduced in connection with the main data as well).*

Furthermore, Suzuki (US 6,763,178) does teach the claimed "navigation information defining a relation required for the main data and the sub data to be reproduced in synchronization with each other" recorded on the recording medium as recited in independent claim 1. Suzuki discloses that sub data (subtitles) can be reproduced in synchronization with the audio and video data, and that the synchronization information is stored in GRAPHICS_HEADER_files (col. 6, lines 26-67). To further clarify the position of the examiner, the GRAPHICS_HEADER_files meets the limitation of the claimed "recording navigation information" that defines a relation for main data and sub data to be reproduced in synchronization with each other. The GRAPHICS_HEADER_files includes ATS and PTS time codes that are used for synchronization purposes. ATS time code is the time at which the data is to be read from the storage medium into a buffer (code buffer 14) for purposes of e.g. decoding, and PTS time code is the precise time and moment of display of the sub-data (subtitles). ATS and PTS time codes are old and thoroughly used in the art to synchronize two separate data files (in this instant audio-video data with subtitles) (col. 6, lines 26-67). Suzuki once again teaches in col. 2, lines 1-10 that graphics header file (GRAPHICS_HEADER_files) are created and stored in separate files on the recording medium.

Regarding claims 5 and 6, Suzuki teaches a system that allows video and audio data, subtitles, and other sub-information data like advertisements, still images, logos, and titles can be recorded onto the medium in separate areas (col. 3, lines 44-61 and Fig. 2). Subtitles meet the limitation of sub-data as claimed, and other sub-information such as advertisements, logos, still images, and titles meet the limitation of extra data. The system controller 17 arranges the sub-image data in one or more files separated from the main data. Suzuki discloses that sub-data in the form of subtitles can be reproduced in synchronization with the audio and video data and the synchronization information is stored in GRAPHICS_HEADER_ files in the form of arrival time stamp (ATS) and presentation time stamp (PTS) (col. 5, lines 26-67). *Suzuki also teaches wherein the navigation information comprises identifiers for particular bitstreams and playback time information for the sub data corresponding to the main data (Suzuki teaches that each GRAPHICS header file has a unique name as can be seen in Figure 2 (GRAPHICS_001.header, GRAPHICS_002.header, ...). Each of the files is recorded separately on the medium, and therefore are stored on separate bitstreams. As discussed above in paragraphs 3 and 4, the PTS time code meets the limitation of the claimed "playback time information" for the sub data corresponding to the main data. Furthermore, since multiple GRAPHICS header files are present, they multiple files read on the claimed **extra data** to be reproduced in connection with the main data as well).*

Furthermore, Suzuki (US 6,763,178) does teach the claimed "recording navigation information defining a relation required for the main data and the sub data to

be reproduced in synchronization with each other" as recited in independent claim 5.

Suzuki discloses that sub data (subtitles) can be reproduced in synchronization with the audio and video data, and that the synchronization information is stored in

GRAPHICS_HEADER_files (col. 6, lines 26-67). To further clarify the position of the examiner, the GRAPHICS_HEADER_files meets the limitation of the claimed "recording navigation information" that defines a relation for main data and sub data to be reproduced in synchronization with each other. The GRAPHICS_HEADER_files includes ATS and PTS time codes that are used for synchronization purposes. ATS time code is the time at which the data is to be read from the storage medium into a buffer (code buffer 14) for purposes of e.g. decoding, and PTS time code is the precise time and moment of display of the sub-data (subtitles). ATS and PTS time codes are old and thoroughly used in the art to synchronize two separate data files (in this instant audio-video data with subtitles) (col. 6, lines 26-67). Suzuki once again teaches in col. 2, lines 1-10 that graphics header file (GRAPHICS_HEADER_files) are created and stored in separate files on the medium.

Regarding claims 7-12, Suzuki teaches that main data in the form of video and audio data are encoded by encoder 18, and that several different sub-information data are encoded by the CPU 31, and is further recorded onto the medium (col. 3, lines 1-8, Fig. 2, col.3, lines 44-61). Suzuki also teaches that if the incoming data is already encoded, then no encoding is required, and the recording takes place (col. 4, lines 29-39). Suzuki's system is an interface between a personal computer (PC) and the recording unit and thereby is a digital interface. It is also noted that for any data to be

written onto a medium of a different format, the data has to be encoded to the format of the medium, in particular, an optical disk.

Reproducing claims 13-24 are rejected on the basis of the recording claims 5-12 above and in addition the following reasons. Suzuki teaches that during reproduction, the optical scans the medium to generate, at any time, the main data comprised of main video and audio data, and sub-images representing subtitles, and other data in the form of advertisements, logos, still images, and titles (col. 4, lines 40-67). As can be seen in Fig. 2, the audio and video data (MPEGAV), subtitles (GRAPHICS), and other information like still images (PICTURES) are stored on separate parts of the medium. The medium and the interface with the reproducing medium and the PC is a digital equipment and is a digital interface. The several types of data read by the optical head is demodulated and error corrected and temporarily stored on a loading channel buffer 7, thereby is a combined stream. The loading channel buffer then splits the signal and sends the audio and video data to their respective decoders 10, and 11. The sub-image data are input to the graphics decoder where titles and other information are decoded. The decoded audio and video data, the sub-image data information are then added together with data from the OSD controller to display to the display unit. The output of the audio and video data, subtitles, advertisements, still-images, and titles are output in synchronization according to the information read from the GRAPHICS_HEADER_file. (col. 5, lines 1-10, col. 6, lines 26-67, and Fig. 2).

Furthermore, as discussed in claims 5 and 6 above and the reasons discussed below, the reproducing method based on "navigation information" as recited in

independent claims 13, 17 and 21 is clearly taught by Suzuki. To further clarify the position of the examiner, Suzuki teaches that "extra data" in the form of advertisements, logos, still images (Fig. 2, PICTURES directory), and title can be associated with the main data (audio-video data) and sub data (subtitles) so that they can be reproduced in synchronization or in connection with each other (col. 3, lines 44-61). As discussed above in claims 5 and 6, and further shown in Fig. 2, **multiple graphics header files can be stored (Graphics_001.Header, Graphics_002.Header, ...) in separate files** that store the "navigation information" for reproducing "extra data" that have been recorded in separate bitstreams. The multiple graphics header files meets the limitation for storing "management information" for "extra data". Furthermore, **other information in the form of still images (Fig. 2, PICTURES directory) are also stored separately** and can also meet the limitation of the claimed "extra data". The multiple graphics header files and the PICTURES directory (reading on "management information" for main, sub and extra data as discussed) are read by the apparatus during reproduction to allow for the functions of reproduction in synchronization and in connection with each other.

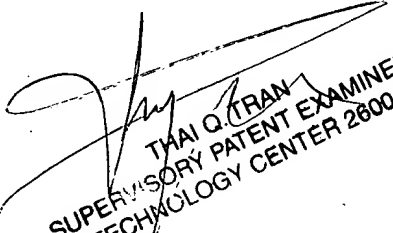
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gelek Topgyal whose telephone number is 571-272-8891. The examiner can normally be reached on 8:30am -5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GT
3/16/2007


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